

Quality Assurance/Quality Control Guidance and Templates

Environmental QA/QC Guidance Document

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Executive Summary

This Quality Assurance/Quality Control (QA/QC) plan (the plan) can be utilized for all Washington State Department of Transportation (WSDOT) environmental documents and covers QA/QC activities that will be implemented for work on the project.

This plan is a companion document to [WSDOT's Environmental Procedures Manual \(EPM\)](#). Both this plan and the EPM should be referenced when preparing WSDOT environmental documents. This plan has been developed to provide recommendations and procedures for project teams for producing high quality environmental documents that comply with federal, state, and local policies and regulations. It is designed to provide a functional and easily understood set of guidelines to maintain and ensure quality during the preparation of environmental documents and can be modified to serve as a project-specific QA/QC plan.

Additional guidance to improve readability and functionality of environmental documents (specifically NEPA) for transportation projects is also included in the American Association of State Highway and Transportation Officials (AASHTO), the American Council of Engineering Companies (ACEC), and Federal Highway Administration (FHWA) [Improving the Quality of Environmental Documents](#) (AASHTO, ACEC, and FHWA, 2006).

The plan is organized into six chapters:

Chapter 1: Introduction. Chapter 1 provides the purpose of the plan and summarizes WSDOT's QA/QC Policy.

Chapter 2: Environmental Documents Subject to QA/QC. Chapter 2 identifies which environmental documents are subject to QA/QC.

Chapter 3: Roles/Responsibilities/Expectations for Ensuring Quality Documents. Chapter 3 identifies which WSDOT staff is responsible for implementing QA/QC and their roles.

Chapter 4: Environmental Document QA/QC Process. Chapter 4 provides an overview of the QA/QC process.

Chapter 5: Best Practices for Ensuring Quality Environmental Documents. Chapter 5 provides important suggestions and lessons learned to ensure quality documents.

Appendix: Templates and Tools. Templates and tools for ensuring quality environmental documents can be found in the appendices.

Chapter 1 INTRODUCTION

1.0 Introduction

WSDOT is strongly committed to sound engineering design, application of sound scientific principles in its analyses, and the production of quality documents. This plan provides guidance for the quality requirements for all WSDOT National Environmental Policy Act (NEPA) and State Environmental Policy Act (SEPA) environmental documents; explains what documents are subject to this process; identifies the staff responsible for performing quality activities and verifying compliance; and provides templates and tools for successfully implementing this plan.

This plan can be implemented by all WSDOT environmental staff during the preparation of all NEPA and SEPA environmental documents and can be referred to when initiating environmental review. The public nature of most environmental documents requires them to be based upon accurate technical information and environmental analysis, to be well-written, easy to read, and to provide full and honest disclosure. Having a QA/QC plan can assist in meeting these requirements very easily.

QA is the process that ensures that prudent quality control measures have been established, and the desired quality in a deliverable or service is achieved. QC refers to the procedures, methods, and actions that are routinely employed to produce conformance with requirements and expectations.

1.1 Purpose

The purpose of QA is to ensure that the project team's processes are sound and that QC is properly provided on every substantive environmental document. In other words, QA is an oversight function to make sure that QC is being properly conducted. The purpose of this plan is to provide a framework to ensure that:

- Quality work is consistently performed and that quality deliverables are consistently produced.
- Project continuity occurs in record-keeping and document review.
- Orderly procedures are established to provide QC for scientific calculations, technical analyses, conclusions, and determinations.
- Project environmental documents have undergone the necessary technical editing, proofreading, and editorial processes.

1.2 QA/QC Policy

WSDOT's policy is to ensure that its NEPA and SEPA environmental documents are compliant with regulatory requirements and written so the information is easily understood. By incorporating this

QA/QC process, document authors and reviewers will identify errors and omissions or conflicts, ask questions, ensure consistency with WSDOT policies and environmental regulations or raise issues regarding items of design features that may present a problem.

Quality work is the responsibility of every individual performing the work. Quality can be obtained through appropriate planning and control of environmental documents and by specific quality control activities such as reviewing, checking, testing, and quality assurance.

Chapter 2 ENVIRONMENTAL DOCUMENTS SUBJECT TO QA/QC

2.1 Types of Environmental Documents

There are a multitude of documents used to support environmental analysis and documentation. Many are not “environmental” documents themselves but do support the environmental review process and aid the development of quality documents. For purposes of this plan, documents subject to this QA/QC process include the following as discussed below.

While it is recognized that not all environmental staff have direct involvement in the development of all the materials discussed below, this plan provides guidance and tools for implementing QA/QC review.

2.2 Technical Methodologies and Reports

All reports, data, and memoranda prepared to provide detail to supplement information presented in an environmental impact statement (EIS), environmental assessment (EA) or documented categorical exclusion (DCE) for a project. This includes methodology reports, discipline reports, and other supporting documentation.

For these supporting technical documents, quality means the document follows guidance found in the [WSDOT EPM](#) and [supporting web pages](#), is “right sized” for the specific discipline, avoids common issues, and adequately addresses environmental impacts for each respective discipline.

2.3 Environmental Impact Statements, Environmental Assessments, SEPA Checklists, and DCEs

All environmental documents and any supplements and amendments prepared to promote decision making by federal, state, and local agencies by making detailed information concerning environmental impacts available to both agency leaders and the public. This includes draft EIS’s, supplemental draft EIS’s, final EIS’s, EA’s, and DCE’s. Categorical exclusions/exemptions, re-evaluations and memos to the file can also adhere to this same process. Finally, SEPA checklists, SEPA Addenda, and SEPA Determinations of Nonsignificance are also included.

For the above-mentioned environmental documents, quality means the document follows the [WSDOT EPM](#), [23 CFR Part 771](#), and [WAC 197-11](#), avoids common issues, adequately addresses environmental impacts for each respective discipline but is “right sized”, and meets the lead agencies’ policies and regulations.

2.4 Findings of No Significant Impact, Records of Decision

All decision documents, supplements, and amendments prepared to document a formal decision and/or approval. This includes findings of no significant impact (FONSI) and records of decision (ROD).

While these decision documents may be finalized and approved by the federal lead agency rather than by WSDOT, conducting QA/QC on the initial drafts before submitting to the federal lead agency is recommended. Note that SEPA Determinations of Nonsignificance are included in 2.3 as WSDOT is the SEPA lead agency and typically finalizes and approves these decisions.

For the above-mentioned environmental documents, quality means the document follows the [WSDOT EPM, 23 CFR Part 771](#), and [WAC 197-11](#), avoids common issues, adequately addresses environmental impacts for each respective discipline but is “right sized”, and clearly identifies mitigation measures and commitments.

2.5 Biological Assessments and No Effect Letters

All documents used to support conclusions made by federal, state or local agencies regarding the effects of their proposed actions on protected resources. This includes no effect letters and biological assessments (BA).

For Endangered Species Act (ESA) documents, quality means the document follows the [WSDOT Biological Assessment Preparation for Transportation Projects](#) (WSDOT, 2011 and 2012), avoids common flaws, and adequately addresses project effects to listed species.

2.6 Permit Applications

All applications for permits and approvals that are required by law to be acquired from an agency that authorizes a specific type of activity under certain conditions. These include, but are not limited to, permit applications, cover/transmittal letters, and associated supporting documentation such as design files.

For permit applications, quality means the document follows the [WSDOT Complete Permit Application Guidance](#) (where applicable) (WSDOT, 2012), avoids common issues, and accurately describes the project activities needing the permit coverage.

2.7 Other Supporting Environmental Documentation

All other documentation used to support conclusions or determinations made by federal, state or local agencies. This includes information such as, but is not limited to, alternatives analysis, cultural resources surveys, mitigation plans, public/agency involvement plans, and memoranda of agreement/understanding.

Chapter 3 *ROLES/RESPONSIBILITIES/EXPECTATIONS FOR ENSURING QUALITY ENVIRONMENTAL DOCUMENTS*

3.1 Roles and Responsibilities

All WSDOT Environmental staff has the responsibility and authority to contribute to the achievement of quality environmental documents. Staff identified below has an important role in this achievement.

3.2 WSDOT Project Environmental Managers and Coordinators

WSDOT Project Environmental Managers and Coordinators provide oversight and review of environmental deliverables. There are times when they also perform the role of document author and/or reviewer. When the latter scenario occurs environmental staff should perform the role of the document author or reviewer as outlined in 3.3 and 3.4. WSDOT Project Environmental Managers and Coordinators perform the following roles:

- Prepare and/or review project schedules and schedule updates.
- Hold and/or attend project meetings to keep the project on schedule and team informed of any project updates.
- Communicate with the Project Engineer/Project Manager and other technical/task leads.
- Prepare and/or review project glossary to ensure all authors and reviewers work from the same terminology.
- Ensure that documents follow [WSDOT's Reader-Friendly Document Tool Kit](#) where appropriate.
- Ensure that QC procedures are followed for environmental analyses and documentation preparation.

3.3 Document Authors

Authors of all environmental documents including discipline reports perform the following roles:

- Refer to the [WSDOT Discipline Report](#) web page ; use the appropriate checklist.
- Confirm the project expectations and format for the documentation being prepared.
- Gain an understanding of the current description on the project alternatives to ensure that project elements are adequately evaluated for potential significant adverse effects.
- Ensure that direct, indirect, and cumulative effects presented in discipline reports and main environmental documents meet NEPA, SEPA, and [EPM](#) guidelines.
- Ensure that proposed mitigation measures are reasonable and achievable, and are treated correctly throughout the documents.
- Coordinate with other discipline authors to ensure consistency between documents and avoid contradictory information or findings.

- Review comments provided on comment-response form. Revise document accordingly and record responses on the comment-response form. Ensure with the reviewers that substantive comments have been addressed.

3.4 Document Reviewers

Reviewers of all environmental documents including discipline reports perform the following roles:

- Refer to and/or complete the [WSDOT Discipline Report Checklist](#) to ensure completeness and consistency with WSDOT policies, and that the document is sufficient to meet procedural requirements.
- Serve as technical expert for methods, approach, assumptions, effects, and mitigation within subject area.
- Review documents for technical adequacy within subject area.
- Contribute to or confirm the study methods, approach, and content outline for each area of expertise.
- Provide recommendations on scope of issues to be addressed.
- Ensure timely content reviews for technical adequacy and consistency.
- Record comments on the comment-response form.
- Provide confirmation of satisfactory responses to substantive comments.

3.5 Technical Editors

Technical editors of all environmental documents including discipline reports perform the following roles:

- Develop a consistent “look and feel” for environmental documents.
- Ensure that documents follow the [WSDOT’s Reader-Friendly Document Tool Kit](#) where appropriate.
- Review and edit each of the environmental documents for ease of understanding, spelling, grammar, punctuation, and overall flow, consistency, and use of one voice.
- Ensure consistency among the text and references, figures and tables.
- Prepare and/or review project glossary to ensure all authors and reviewers work from the same terminology.
- Provide QC for environmental documents by ensuring set procedures have been followed during the development of each document.

3.6 QA/QC Lead

The QA/QC Lead performs the following roles:

- Ensure that QA/QC processes have been followed per the projects' QA/QC plan.
- Monitor QA/QC implementation and evaluate adequacy and effectiveness.
- Maintain and ensure product quality during preparation of environmental documents.
- Cross check the author's response as indicated in the comment-response form to ensure authors have made revisions to the document per the reviewers, comments.
- Track when and how reviews have occurred.

3.7 Roles and Responsibilities Template

This simple template can be used to quickly identify project team members and their role.

<i>Title</i>	<i>Name</i>
Project Environmental Manager	_____
Document Author(s)	_____ _____
Document Reviewer(s)	_____ _____
Technical Editor	_____
QA/QC Lead	_____

Chapter 4 *ENVIRONMENTAL DOCUMENT QA/QC PROCESS*

4.1 Overview of QA/QC Process

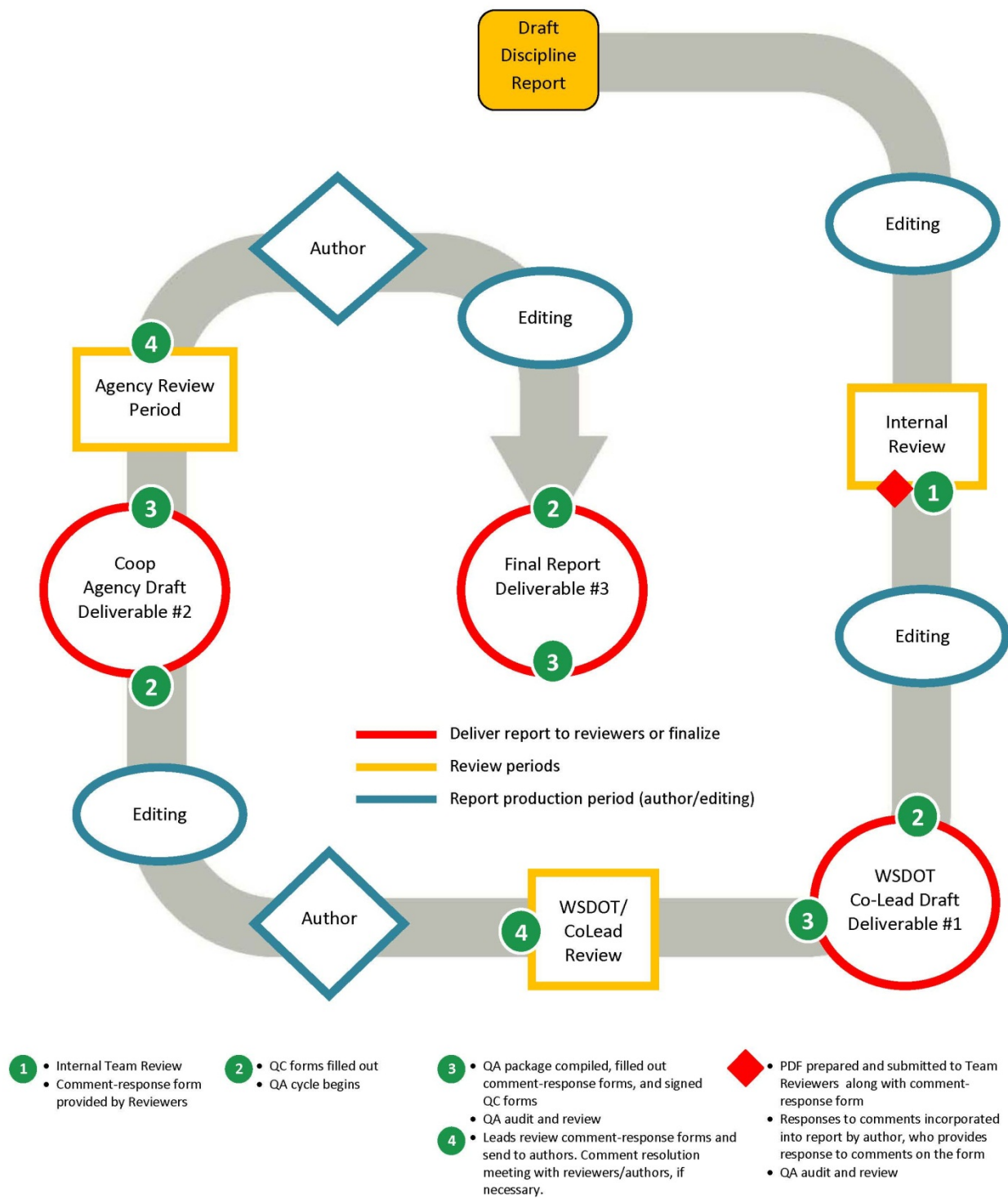
This chapter describes the QA/QC procedures and gives detailed guidance on utilizing the comment response form and QA/QC documentation.

4.2 Document Production

As illustrated in Figure 1, documents can be prepared and reviewed according to the process described below. This process is flexible and can be tailored to meet the needs of the project. Each project can decide on the number of review cycles as necessary. The intent of this section is simply to provide an overview of document production.

- Author prepares document in accordance with appropriate policies and guidance.
- The document is edited.
- The document is reviewed (peer review or internal review). Reviewers use comment-response form.
- Author revises document per comments tracking responses in the comment-response form.
- The document is edited and checked for compliance with QA/QC processes.
- The document is reviewed by WSDOT, outside agencies or federal lead agencies (depending on how many reviews are determined to be necessary). Reviewers use comment-response form. Determine if a comment-resolution meeting is needed.
- Author revises document per comments tracking responses in the comment-response form.
- The document is edited and checked for compliance with QA/QC processes.
- The document is reviewed for a final round to ensure revisions were made appropriately and accurately.
- The document finalized for production.

Typical QA/QC Process Flowchart



4.3 Comment/Response Development and Resolution

All project team, lead agency, and outside agency and tribal reviewer comments can be recorded on a comment-response form similar to examples provided on the [WSDOT NEPA/SEPA Guidance](#) web page. The comment-response form is a simple and effective tracking tool that aids in a clear record of reviewers' comments and authors' responses. The use of a rating or priority column within the spreadsheet is also helpful for reviewers to prioritize their comments and identify substantive comments for discussion and follow-up. The rating system consists of three levels of priority.

- Priority 1 indicates critical issues requiring inter-agency discussion or policy level changes. These comments can be addressed and discussed in a comment resolution meeting.
- Priority 2 indicates factual or substantive errors that should be corrected prior to publication. These comments do not need to be addressed in a comment resolution meeting.
- Priority 3 indicates editorial suggestions to improve readability or other ideas.

Document reviewers are encouraged to focus their comments on substantive issues. Project teams can facilitate the development of a quality document by specifying the role of document reviewers and reinforcing how best reviewers can focus their comments when soliciting comments via email. For examples of emails that solicit comments. Asking for comments on content and significant issues in an environmental document may be a better use of time than identifying formatting or small editorial changes. Many documents are formatted or edited following initial reviews. However, the focus of review needs is specific to each project team and for each phase of the QA/QC process. Document review requirements should be specified, communicated, and reinforced throughout the review process.

Substantive comments should be resolved to the satisfaction of the reviewer. In cases where resolution cannot be achieved between an author and reviewer, the author and appropriate lead environmental staff should decide on what action will be taken. Decisions on the issue are noted in the response column of the comment-response form. Some comments warrant resolution in a discussion format and require a comment resolution meeting between the author, reviewer, and other appropriate environmental staff to resolve. If this type of meeting is needed, indicate any changes to the authors' responses in a revised comment-response form. Typically, following a comment resolution meeting, the author makes the appropriate changes to the document and a second round of review of the document occurs. This ensures the changes were made in the document and were made to the reviewers' satisfaction.

Final copies of all comment-response forms are retained and made part of the official project record.

4.4 Quality Control Verification

QC verification reviews are internal reviews performed on all deliverables and supporting documents to verify that they are complete, conform to project standards, and meet the project's expectations as outlined for each QA/QC plan. This step is typically performed by the QA/QC lead following each review cycle. QC verification results should be documented and reported to the appropriate project team staff (as identified in each project's QA/QC plan).

A final QC review can be conducted by the appropriate staff (typically the QA/QC lead) to ensure that all quality control requirements were met and that all documents are ready for production and submission. [Appendix A](#) provides examples of QC verification forms.

4.5 Quality Assurance Audit

The quality audit is a valuable tool for continuous improvement. Generally, quality audits are performed internally after documents and deliverables have gone through review and QC verification. Audits are typically performed by the QA/QC lead but can also be performed by other project staff. As part of a quality audit, projects can rely on QA checklists to effectively track, examine, and verify all quality enhancement programs before, during, and after implementation. Such a checklist is meant to provide project teams with valuable guidance in determining and planning all quality activities within the development of environmental documents.

A checklist can ensure that the environmental document complies with federal, state, and/or local agency laws, regulations, and policies. It can also ensure overall quality and consistency of the document and minimize correctable errors, all resulting in a legally sufficient document. [Appendix B](#) provides an example of a QA checklist.

Chapter 5 *BEST PRACTICES FOR ENSURING QUALITY ENVIRONMENTAL DOCUMENTS*

5.1 Best Practices

This chapter provides suggestions and lessons learned to achieve quality environmental documents. Simple steps include developing a project plan, holding a kickoff meeting, and maintaining ongoing communication with team members.

5.2 Scopes of Work

Scopes of work are developed to support project and program delivery when services are not available from internal resources. Often, consultant support is used to supplement state staff in the preparation and delivery of environmental documents. A scope of work is one of the most critical parts of the entire contracting process. It is important that scopes of work are clear and understandable so that consultants can understand what the agency's needs are. An effectively written scope can make the process easier and will increase the chances of better meeting the projects' needs.

For scopes of work, quality means the document clearly outlines the expected deliverables and assumptions, and also ensures that the deliverables are measurable. Documents such as scopes of work, task order amendments, cost estimates, and other related documentation can be subject to QA/QC but do not require as rigorous of a process as other publicly available environmental documents. The intent of including scopes of work in this plan is to ensure that applicable team members review the scopes of work before substantive work on the project begins. Information related to procuring consultant services and development of scopes of work is also contained within the [WSDOT Consultant Services Manual](#). Examples can be found in the WSDOT Sample Document Library. Please contact your Region Environmental Coordinator for access.

5.3 Develop a Project Plan

A well-developed project plan can be instrumental in creating successful environmental documents. The project plan is a set of living documents that can be expected to change over the life of the project. Like a roadmap, it provides direction for the project. The project plan can be as simple or as complex as needed, depending on the scope of each project. The following guidance is not intended to be prescriptive, but includes some useful tools to help environmental team members at the onset of the project.

5.3.1 Project Team Contact List

Developing a project team contact list with the names and contact information for all key environmental staff is important. Specifically, a contact list with each discipline author and reviewer can be instrumental in good communication during document reviews. As part of the development of this contact list, each author and reviewer must be contacted to confirm that they are the appropriate person for the task, that they have availability and can meet the project schedule deadlines, and to confirm their role and responsibilities. During the development of the contact list, it is also important to identify any secondary or “back up” authors and reviewers. These team members are important for meeting deadlines and coverage as necessary in the event the primary author or reviewer is unavailable. This contact list should be distributed to all project staff and updated regularly if there are staffing changes. [Appendix C](#) provides examples of project team contact lists.

5.3.2 Outlines

Developing an outline is very important in that it helps organize the main points and visualize the structure and direction of each environmental document. As an outline is developed the purpose and audience of the document is determined, in addition to presenting the material in a logical form. Whether producing a straightforward categorical exclusion or a complex environmental impact statement, success can depend on the ability to make a clear and obvious presentation of information.

Outlines can be subject to QA/QC but do not require as rigorous of a process as other publicly available environmental documents. The intent of including outlines in this guidance is to ensure that applicable team members review and/or prepare an outline before substantive work on the environmental document begins. Often an outline can provide a means of agreement of the overall document with the federal lead agencies. Refer to WSDOT Sample Document Library, please contact your Region Environmental Coordinator for access. Information related to the development of document outlines is also contained within the [EPM](#) and [Reader-Friendly Document Tool Kit](#).

5.3.3 Document Standards and Format

It is extremely important to maintain document quality, clarity, and consistency, as well as efficiency when preparing environmental documents. Developing or adopting a style guide is one way to achieve this. A style guide and/or development of standard document organization, layout, formatting, and other details can ensure quality, clarity, and consistency. This can also make reviews easier and faster by allowing the reviewers to focus on content and technical adequacy rather than extraneous details such as formatting or font choice. A style guide for WSDOT documents can be found on the [WSDOT Reader Friendly Document Tool Kit](#).

5.3.4 Project Description

Establishing a project description is a valuable communications tool to explain the proposed project to relevant internal and external staff so that they are better able to analyze and understand potential

project effects and advise on approval requirements at an early stage in the project. A project description should include a brief summary of the proposed project and its impacts in sufficient detail to provide focus for the environmental review. Elements of a project description can include:

- Location and boundaries of the proposed project both discussed in text and shown on a detailed map.
- Purpose and need for the proposed project.
- A general description of the project area existing conditions.
- Identification of the audience for the environmental document.
- A list of all relevant federal, state or local environmental laws, regulations, and policies.

5.3.5 Document Review Schedule

Making document review a priority on the front end is a critical step for successful environmental documents. Writing detailed technical analysis or proposed project effects with several review cycles can be an arduous task; delays seem inevitable. Dividing any document into manageable pieces can help the reviews run more smoothly. Document review schedules minimize lag time and result in higher quality documents. Each project should determine what deliverables should go through a multi-step review process. Not all documents may need tracking on a review schedule but clarifying that at the onset of a project is important for all team members to understand. See [Appendix D](#) for example document review schedules.

The use of a document review schedule can make it easier to get commitment from technical reviewers as well as outside agencies and tribes. If reviewers can see when document reviews are expected to occur, they can more easily dedicate their time to an uninterrupted, quality review. Conversely, if they are not available for the review, alternate plans can be made early in document development without compromising the overall review schedule. Sharing the review schedule and any subsequent updates with the entire team (including outside agencies and tribes as appropriate) is important. Early and often coordination with reviewers ensures their availability, keeps them apprised of any schedule changes, and allows them to follow the progress of the document throughout all review cycles by both internal and external reviewers.

Another tool for ensuring timely document review is to notify reviewers well in advance of when to expect a document for review. One way of doing this is to send Outlook appointments to reviewers indicating dates and times when they will receive the document and when comments are due. Similar to the benefits of a document review schedule, this prompts reviewers to identify any potential schedule conflicts in advance. It also serves as a friendly reminder as the comment deadline approaches.

For FHWA-led projects, review timelines were derived from the [Washington Division Standard Operating Procedures for NEPA Document Reviews](#) (FHWA, September 2011). Timelines for FHWA review are provided to assist project teams to develop the project schedule and account for lead

agency review durations. Some flexibility is allowed where appropriate. It is highly recommended to work with your federal lead agency point of contact when developing the project schedule. Review timelines for other federal leads such as Federal Rail Administration or Federal Transit Administration, should be verified with the federal point of contact and documented. Refer to [Appendix E](#) for Federal Lead Agency review timeline expectations, and [Appendix F](#) for example email notifications and meeting requests.

5.3.6 Communication Protocols

Establishing clear communication protocols for project team members is extremely important in the development of successful environmental documents. Knowing who to contact with questions or concerns aids in faster and more direct issue resolution and assures that issues get resolved with the right people in the right venue. Communication protocols tie back to the development of an accurate project contact list as discussed in 5.3.1.

5.3.7 Roles and Responsibilities

Not all project team members develop or review all documents so it is necessary to determine who on the project needs to author, who needs to review, and who needs to approve. This is generally completed early in the project with participation of a few key project team members and/or management.

Outlining roles and responsibilities can manifest in a variety of ways. It can be an open discussion among team members during the kickoff meeting or developed early and reviewed by all team members prior to commencing work. Either way, roles and responsibilities should be documented and distributed to all appropriate team members.

5.4 Hold a Kickoff Meeting

Holding a kickoff meeting is an effective way to bring team members together to discuss the project. It can be used to start building or improving relationships among the team members, authors, and reviewers as well as confirm all project assumptions, schedules, expectations, and roles and responsibilities.

It is at the kickoff meeting that the above-mentioned tools should be reviewed by all project staff. This will ensure that all project staff receives the same, consistent information about the project they will be working on. It is also an opportunity for project staff to understand the scope of the work, the schedule, and deadlines for their work as well as how to communicate and who with.

A kickoff meeting should be held as early as possible, with the acknowledgement that continued meetings may be needed as the project moves forward. For example, kickoff or update meetings could occur prior to the development of a draft environmental impact statement and again before the final environmental impact statement. [Appendix G](#) provides examples of a kickoff meeting agenda.

5.5 Inform Project Team and Reviewers

Efficiently and effectively utilize the expertise of authors, reviewers, and other environmental project staff by keeping them informed of document development. Project updates, changes to deliverables or strategy are important to convey to authors and reviewers in particular. Updates can be provided by email and phone or through regularly scheduled project team meetings. However this is done, each project team must know the standard communication protocol.